

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Keith FitzPatrick
Serial No. : 10/612,196
For : SUBSTRATE FOR ENDLESS BELT FOR USE IN
PAPERMAKING APPLICATIONS
Filed : July 2, 2003
Examiner : Andrew T. Piziali
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DECLARATION OF FRANCIS L. DAVENPORT UNDER 37 C.F.R. §1.132

Commissioner for Patents, P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I, Francis L. Davenport, declare and state that:

1. I make this statement in connection with U.S. Application Serial No. 10/612,196 ("the '196 application").
2. I am an **Engineer** and an employee of Albany International Corp., the assignee of the '196 application.
3. I received **BS Ch E** degree from **Clarkson University in Potsdam, NY**. I have been employed by the assignee of this application, since **1974**. In view of my education and experience, I consider myself to be an expert in the field to which this application pertains.
4. I am familiar with the prosecution history of the '196 application, up to and including the Notice of Panel Decision from Pre-Appeal Brief Review mailed on May 13, 2009.

5. Claims 1-11, 13 and 32-40 are rejected under 35 U.S.C. §102(b) or, in the alternative, under 35 U.S.C. §103(a) over U.S. Patent No. 5,753,485 to FitzPatrick ("FitzPatrick"). Claims 1 and 32 are independent.

6. Claim 1 recites, inter alia:

A substrate useful for making an endless belt in a papermaking machine application comprising:

a plurality of individual preformed layers and a polymeric coating or impregnating material or rubber material that is part of each of said individual preformed layers,

wherein each individual preformed layer is a textile layer coated or impregnated coated or impregnated with resin or the rubber material, and

at least one layer of which contains a matrix of reinforcing components.

7. Independent claim 32 recites: "A papermaker's process belt comprising...a plurality of individual layers of preformed material that are first coated with a polymer resin or rubber material individually and then combined to form a substrate of the belt."
8. FitzPatrick fails to teach the above-recited limitations, and instead shows a single textile layer formed as a multilayer weave, and that structure is then coated.
9. The independent claims require a substrate including *a plurality of individual preformed layers* and *a polymeric coating or impregnating material or rubber material that is a part of each of these individual preformed layers*. Each individual preformed layer is a textile layer first coated/impregnated with resin or the rubber material -- *i.e.*, the individual layers of preformed components are first coated or impregnated with a polymer resin and then combined to form the substrate of a belt for papermaking machine applications.
10. The properties of the claimed laminated substrate and the requirements for its use in papermaking, such as dewatering as in a shoe press belt, sheet support and uniform pressure distribution in the nip, or ease of transfer of the sheet of paper from one position to another, may be predetermined by application of these processes. In other words, belts having specific predetermined properties (including different properties on the face and shoe sides or face and back sides of the belt) may be produced by varying the "layers" or structures used in forming the instant substrate.

11. Thus the claims require a substrate that comprises a plurality of preformed layers and a polymeric coating, impregnating material or rubber material that is part of a respective layer, wherein each preformed layer is a textile layer or a textile layer coated or impregnated with resin or the rubber material, and at least one layer of which contains a matrix of reinforcing components. Thereafter the preformed layers are joined by heat and/or pressure and an additional resin coating may be applied to either or both outside surfaces.
12. Paragraphs 0036 and 0042 of the instant application clearly indicate that *each layer that makes up the belt is laminated to an adjacent layer*. Each preformed layer is a "textile layer" or a textile layer coated/impregnated with resin. The individual layers are first coated/impregnated with a polymer resin and then combined to form the substrate of the belt for papermaking machine applications. The coating/impregnating of the layers of the textile substrate can be carried out by the process described in FitzPatrick. Thus each layer has either a coating already, or has a layer of fusible material inserted between layers to allow lamination to take place. *Id.*, paragraphs 0038, 0042. It should also be noted one distinct structural advantage is that this technique causes nearly complete lamination *between adjacent layers* (100% coverage). Finally, the laminate could have a further resin coating as disclosed in paragraph 0044 of the instant specification.
13. FitzPatrick, on the other hand, discloses a nip press belt having a textile substrate impregnated and coated on at least one side with a polymeric resin material. FitzPatrick fails to teach the above-recited limitation, and instead shows a single textile layer formed as a multilayer weave, and that structure is then coated. *FitzPatrick does not disclose a multilayer structure as claimed in claim 1 and 32.*
14. In detail, FitzPatrick's long nip press belt has a textile substrate impregnated and coated on at least one side with a polymeric resin material. *FitzPatrick, Abstract*. The polymeric resin material is ground and buffed after being cured to provide the belt with a smooth surface and a uniform thickness. *Id.* The textile substrate may include textile components (monofilaments, continuous fine filaments or staple fibers) having non-circular cross sections with a plurality of lobes. *Id.*

15. As a result, FitzPatrick does not disclose the multilayer constructions recited in claims 1 and 32. FitzPatrick does not provide for a substrate “comprising a *plurality of preformed layers* and a polymeric *coating or impregnating material or rubber material that is part of a respective layer*, wherein *each preformed layer is a textile layer or a textile layer coated/impregnated with resin or the rubber material*, and at least one layer of which contains a matrix of reinforcing components” as claimed in claim 1. Nor does FitzPatrick provide for “*layers of preformed material that are first coated then combined to form a substrate of the belt*” as claimed in claim 32.
16. FitzPatrick, and Figure 6 specifically, shows three layers of material (e.g. yarns) not woven together. *FitzPatrick*, col. 5, lines 38-49. *After* those layers are brought into contact with each other, a *single* coating layer 50 is applied to this entire substrate of layers. *Id.* FitzPatrick specifically discloses that the transverse continuous fine filaments 46 and longitudinal continuous fine filaments 48 are not interwoven with one another, but form a non-woven matrix. *Id.* A polymeric resin coating 50 is provided on both sides of long nip press belt 44. *Id.* To those of ordinary skill in the art, the single polymeric resin coating 50 in FitzPatrick is clearly different from the *distinct* resin layers of the instant invention *i.e.* a polymeric coating or impregnating material or rubber material that is part of *each* of said individual preformed layers.
17. In contrast, as paragraphs 0036 and 0042 of the instant application clearly explain, each layer that makes up the belt is laminated to an adjacent layer. Each layer has either a coating already, or has a layer of fusible material inserted between layers to allow lamination to take place (paragraphs 0038, 0042). The claimed technique causes a fairly complete lamination between adjacent layers (nearly 100% coverage), thereby resulting in a structurally different construction than the impregnated structure of FitzPatrick.
18. Figure 5 is described at col. 5, lines 26-37 of FitzPatrick, and in particular, lines 32-35. Figure 5 clearly shows “[t]ransverse yarns, 30 are interwoven with longitudinal yarns 40 in a multilayer weave.” *FitzPatrick*, col. 5, lines 32-35. There is no plurality of individual preformed layers that are “textile layers.” Rather, Figure 5

shows a single textile layer formed of a multilayer weave. *Id.* Because FitzPatrick's layers are formed by interweaving, each individual layer cannot be preformed, nor first coated/impregnated with resin or the rubber material.

19. To summarize, Figure 6 of FitzPatrick shows three layers of materials such as yarns, which are brought together. This entire substrate is then covered with a single coating. See col. 5 lines 38-49 of *FitzPatrick*. Figure 5 shows a single textile layer formed of a multilayer weave. *FitzPatrick*, col. 5, lines 32-35. The claims, to the contrary, recite that "each individual preformed layer" is "coated or impregnated with resin or the rubber material" or that "a plurality of individual layers of preformed material [] are first coated with a polymer resin or rubber material individually and then combined to form a substrate of the belt." As each layer is accordingly coated or impregnated, the layers have fusible material which allows lamination between the layers to take place. Such a technique causes *a fairly complete lamination between adjacent layers, at nearly 100 percent coverage*, and this is something that FitzPatrick's structure does not achieve. Structurally, FitzPatrick's substrate does not have the distinct resin layers as claimed: "a polymeric coating or impregnating material or rubber material that is *a part of each said individual preformed layer*, wherein *each individual preformed layer* is a textile layer coated or impregnated with resin or the rubber material," (claim 1) or "*a plurality of individual layers of preformed material that are first coated with a polymer resin or rubber material individually and then combined to form a substrate of the belt*" (claim 32).

20. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true. These statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date:

23 June 2009


Francis L. Davenport